



## Dolby PC Entertainment Experience Overview

Dolby and Intel collaborate to bring entertainment PCs to the digital home.



### Welcome to the Dolby PC Entertainment Experience

The Dolby® PC Entertainment Experience is designed to make it easy for computer manufacturers to develop and market entertainment PCs with audio quality and surround sound capabilities that, until now, were only available from consumer electronics. In collaboration with Intel Corporation, Dolby Laboratories has developed the Dolby PC Entertainment Experience—a licensing and quality assurance program that combines the power and flexibility of the PC with Dolby audio technologies and expertise. The result will be a richer, more engaging PC entertainment experience from any audio source in virtually any listening environment.

The Dolby PC Entertainment Experience provides a significant business opportunity for PC manufacturers to offer entertainment PCs featuring compelling Dolby audio technologies on platforms developed and tested to Dolby Laboratories' rigorous audio specifications. Only PC systems that have been tested and approved by Dolby Laboratories will be authorized to be sold with a Dolby PC Entertainment Experience logo.

The Dolby PC Entertainment Experience provides high-quality audio solutions for all PC users, from the casual movie watcher, to the business traveler, to the most discriminating audiophile. The presence of a Dolby PC Entertainment Experience logo will make it easy for consumers to select an entertainment PC with the high-quality audio features and surround sound capabilities most appropriate for their entertainment needs.

### About Dolby

The Dolby brand is recognized globally as being synonymous with quality, excellence, and innovation. Since our founding nearly 40 years ago, approximately 1.7 billion Dolby licensed products have been sold.

Dolby Laboratories creates technologies that enhance the entertainment experience. Throughout our history, Dolby has defined high-quality audio and surround sound in cinema, broadcast, home entertainment systems, cars, and games. Dolby innovations are used by professional content creators around the world to produce content with high-quality digital audio and surround sound in movie soundtracks, DVDs, music, television, satellite and cable broadcasts, and video games.

### Dolby and Intel

Dolby and Intel share the vision of bringing an incredible entertainment experience to consumers through the PC. The two companies are working together to advance the PC platform's audio performance and quality standards. The powerful combination of Intel's leadership and technology in PC components, along with Dolby's audio expertise and technologies, brings new capabilities to PCs, providing consumers premium surround sound for world-class audio entertainment experiences. The Dolby PC Entertainment Experience is available exclusively on Intel-based PCs including the Intel® Pentium® 4 Processor with HT Technology combined with the Intel Express Chipset Family with Intel High Definition Audio implementation or Intel Centrino™ mobile technology combined with the Mobile Intel Express Chipset Family with Intel High Definition Audio implementation.

Together, Dolby and Intel are enabling a new class of PCs perfect for the digital home.



### Dolby Sound Room

Dolby Sound Room™ delivers all the excitement and natural ambience of a perfectly configured 5.1-speaker home theater system from any source, using just two speakers or any pair of headphones.

#### Dolby Sound Room includes:

Dolby Digital  
Dolby Pro Logic® II  
Dolby Headphone  
Dolby Virtual Speaker

#### At a glance:

- Dolby personal surround sound experience
- High-quality audio for a richer, more natural, and engaging listening experience
- Transforms all stereo content into spacious and realistic surround sound
- Flexibility to choose surround sound playback from headphones or two speakers

#### Target platforms

Desktop PCs based on an Intel Pentium 4 Processor with HT Technology and Intel Express Chipset Family with Intel High Definition Audio

Notebook PCs based on Intel Centrino mobile technology and Mobile Intel Express Chipset Family with Intel High Definition Audio

#### Relative positioning

Mainstream, mobile/desktop, space-constrained PCs for Dolby personal surround sound

#### Discrete analog line outputs requirements\*

At least two

#### S/PDIF (electrical or optical)

Optional

#### Integrated audio codec solution

Approved for Dolby Sound Room

#### Audio performance sample line output requirements\*

Dynamic range  $\geq 75$  dB (CCIR 2K weighting)

Frequency response 20 Hz to 20 kHz, passband ripple  $\pm 0.5/-3$  dB

THD+N  $\leq -60$  dBFS

Full-scale output voltage w/o clipping  $\geq 1 V_{RMS}$

#### Applications

Two-channel DVD player with multichannel Dolby Digital access



### Dolby Home Theater

Enjoy true Dolby Home Theater™ surround sound from your digital content, with the flexibility to tailor your listening experience to best fit your media, mood, audience, and environment.

#### Dolby Home Theater includes:

Dolby Digital  
Dolby Digital Live  
Dolby Digital Stereo Creator (or Dolby Digital Recording)  
Dolby Pro Logic II  
Dolby Headphone  
Dolby Virtual Speaker

#### At a glance:

- True Dolby Home Theater surround sound
- High-quality audio for a richer, more natural, and engaging listening experience
- Flexibility to choose your surround sound playback: via headphones, two speakers, or up to seven speakers of surround sound
- Ideal for home networking entertainment devices
- Perfect for sharing the entertainment experience with family and friends
- Transforms stereo content into five full channels of vivid surround sound
- Create DVDs with Dolby Digital sound

#### Target platforms

Desktop or entertainment PCs based on an Intel Pentium 4 Processor with HT Technology and Intel Express Chipset Family with Intel High Definition Audio

Notebook PCs based on Intel Centrino mobile technology and Mobile Intel Express Chipset Family with Intel High Definition Audio

#### Relative positioning

Performance, entertainment-specific PC for true Dolby Home Theater surround sound

#### Discrete analog line outputs requirements\*

At least six for non-mobile platforms

At least two for mobile platforms

#### S/PDIF (electrical or optical)

Required

#### Integrated audio codec solution

Approved for Dolby Home Theater

#### Audio performance sample line output requirements\*

Dynamic range  $\geq 85$  dB (CCIR 2K weighting)

Frequency response 20 Hz to 20 kHz, passband ripple  $\pm 0.5/-1$  dB

THD+N  $\leq -60$  dBFS

Full-scale output voltage w/o clipping  $\geq 1 V_{RMS}$

#### Applications

DVD player with 5.1-channel Dolby Digital decoding  
Personal video recorder with Dolby Digital Recording  
DVD-authoring application with Dolby Digital Stereo Creator



### Dolby Master Studio

Dolby Master Studio™ provides the ultimate set of audio presentation capabilities with up to 7.1 channels of surround sound for the most compelling, natural, and dramatic Dolby listening experience possible from all of your entertainment. Plus, the power to author DVDs with discrete multichannel Dolby Digital surround sound.

#### Dolby Master Studio includes:

Dolby Digital  
Dolby Digital Live  
Dolby Digital EX  
Dolby Digital 5.1 Creator  
Dolby Pro Logic IIx  
Dolby Headphone  
Dolby Virtual Speaker

#### At a glance:

- The ultimate Dolby surround sound experience
- High-quality audio for a richer, more natural, and engaging listening experience
- Advanced levels of audio control for the power to tailor the listening experience to your preferences
- Ideal for home networking entertainment devices
- The best choice for PC gamers—get the Dolby surround sound advantage
- Flexibility to choose your playback experience: via headphones, two speakers, or a 7.1-speaker system
- Perfect for sharing the entertainment experience with family and friends
- Transforms stereo and 5.1-channel content into 7.1 full channels of stunning surround sound
- Create multichannel DVDs with Dolby Digital 5.1 Creator technology

#### Target platforms

Desktop or entertainment PCs based on an Intel Pentium 4 Processor with HT Technology and Intel Express Chipset Family with Intel High Definition Audio.

#### Relative positioning

Enthusiast, powerful entertainment PC with 7.1 channels of Dolby surround sound and the power to author DVDs with Dolby Digital surround sound

#### Discrete analog line outputs requirements\*

Eight

#### S/PDIF (electrical or optical)

Required

#### Integrated audio codec solution

Approved for Dolby Master Studio

#### Audio performance sample line output requirements\*

Dynamic range  $\geq 95$  dB (CCIR 2K weighting)

Frequency response 20 Hz to 20 kHz, passband ripple  $\pm 0.5$  dB

THD+N  $\leq -65$  dBFS

Full-scale output voltage w/o clipping  $\geq 1 V_{RMS}$

#### Applications

DVD player with 5.1-channel Dolby Digital decoding  
DVD-authoring application with Dolby Digital 5.1 Creator

\*See the *Dolby PC Entertainment Experience System Development Manual* for complete requirements.

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